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A Pliocene Flamingo from Florida

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Pliocene bird remains from phosphate deposits in southern Florida include several specimens of the first fossil flamingo from eastern North America. It is described as

Phoenicopterus floridanus new species

Figures 1 and 2

Type. Distal portion of right tibiotarsus, No. 147, collection of Pierce Brodkorb. Middle Pliocene (Bone Valley Formation), from one and one-half miles south of Brewster, Polk County, Florida, in N 1/2 of NE 1/4 of NW 1/4, Sec. 5, T. 32 S, R. 24 E. Collected by George C. Elmore in February, 1952.

Diagnosis. Distal end of tibiotarsus similar to that of the several modern species of *Phoenicopterus,* but shaft broader and deeper; anterior intercondylar fossa wider and more deeply excavating internal condyle; proximal border of supratendinal bridge apparently less oblique (somewhat broken in type); posterior portion of bone more compressed, with posterior intercondylar sulcus narrower; groove for peroneus medius at its upper end more nearly parallel to axis of shaft, not inclining so abruptly to posterior outer edge of shaft.

Differs from *Phoenicopterus copei* Shufeldt (1892), of the Pleistocene of Oregon, in greater width of anterior intercondylar fossa, which excavates more deeply the internal condyle; smaller condyles; lesser breadth of distal end of bone.

Differs from *Phoenicopterus stocki* L. Miller (1944), of the Pliocene of Chihuahua, in much greater size and relatively narrower condyles.

Differs from *Phoenicopterus croizeti* Gervais (1852), of the Upper Oligocene of France, in wider anterior intercondylar fossa, which excavates more deeply the internal condyle; narrower shaft.

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Differs from *Megapaloelodus connectens A. H.* Miller (1944), of the Miocene of South Dakota and California (see L. Miller, 1950), in having the condyles inclined in the opposite direction; intercondylar tubercle more median in position; supratendinal bridge not depressed nor separated from inner side of shaft by a furrow; internal condyle not inflated, and with only a slight distal indentation, not a deep notch.

In certain proportions of the tibiotarsus the Florida bird differs from all the known species of *Phoenicopterus.* In the new species the ratio of the width of the distal end to its depth is 95 per cent. In the living species the ratio varies from 73 *(ruber)* to 89 per cent *(chilensis).* In *copei* the ratio is 85 per cent, and in *stocki* it is 80 per cent. This proportion is not available for *croizeti.*

In the new species the ratio of the width between the condyles to the width of the distal end is 35 per cent. In modern forms the ratio varies from 29 *(antiquorum)* to 34 *(ruber).* Among the other fossil species the ratio is 30 per cent in *croizeti,* 31 in *copei,* and 40 in *stocki.*

In deeply excavated internal condyle and less oblique supratendinal bridge this new species tends to link the Oligocene and Miocene genera *Paloelodus* and *Megapaloelodus* with the Pleistocene and recent species of *Phoenicopterus.* In other characters separating the genera, however, the Florida bird agrees with *Phoenicopterus.* It should be noted that the Oligocene species *Phoenicopterus croizeti is* very similar to the modern forms.

Referred Material. The shaft of a right tibiotarsus (No. 202) and the distal parts of two right tarsometatarsi (No. 146 and 300), from the same locality, are referred to the present species. Although coming from birds of two different sizes, the tarsometatarsi differ from modern species of *Phoenicopterus* in having the shaft wider and deeper. From *copei* they differ in having trochlea two narrower and less rotated toward trochlea three. The facet for digit two is less oblique (more nearly perpendicular) and thus more nearly resembles *chilensis* than *copei.* The outer rim of trochlea four is less produced distad than in *copei.* Further, the opening of the distal foramen is slightly less elevated on the shaft than in *copei* and is located relatively nearer the inner edge of the bone (i.e., the inner side of the bone is less expanded than in *copei).* The location of the posterior opening of the distal foramen is about as in modern *antiquorum,* more elevated than in *chilensis,* less elevated than in *ruber.*

Measurements. Tibiotarsus (No. 147, type): breadth of distal end 16.5; depth of external condyle about 17.6; depth of internal condyle 17.4; narrowest transverse breadth of shaft 7.9; narrowest depth of shaft 7.7; greatest breadth of posterior intercondylar sulcus 9.4 mm. No. 202: breadth of shaft at upper end of tendinal grooves 10.2; depth at same point 7.4 mm.

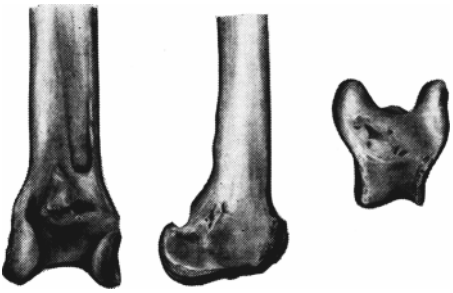

Figure 1. *Phoenicopterus floridanus* n. sp. Distal end of right tibiotarsus. Type, No. 147. X 1, approximately

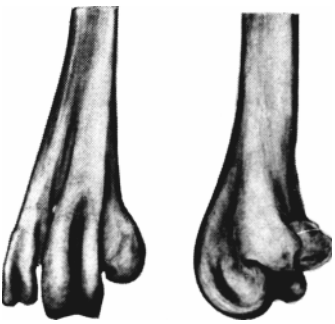

Figure 2. *Phoenicopterus floridanus* n. sp. Distal end of right tarsometatarsus. No. 146. X 1, approximately.

Tarsometatarsus: greatest width through trochleae 18.3-20.4; anterior width of trochlea two 6.5-7.0; width of trochlea three 7.1-8.3; width of trochlea four 4.8-5.6; depth of trochlea two 11.4-13.3; depth of trochlea three 8.7-9.8; depth of trochlea four 9.7-11.5; length of trochlea three, from foramen, 13.5-14.8; length of trochlea four, on inner side 9.7-12.4; distance from posterior opening of foramen to lateral edge of shaft 4.6-5.4; narrowest width of shaft 6.5-6.8; narrowest depth of shaft 6.0-6.8 mm.

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Literature Cited

Gervais, P.
1852 Zoologie et Paleontologie Francaises (animaux vertebres) ou nouvelles recherches sur les animaux vivants et fossiles de la France, p. 233, pl. 2, fig. 4-5.

Miller, Alden H.
1944 An avifauna from the Lower Miocene of South Dakota. Univ. California Publ., Bull. Dept. Geol. Sci., vol. 27, no. 4, p. 85-100, 8 text fig.

Miller, Loye
1944 A Pliocene flamingo from Mexico. Wilson Bull., vol. 56, no. 2, p. 77-82 fig. 1-2.
1950 A Miocene flamingo from California. Condor, vol. 52, no. 2, p. 69-73, fig. 16.

Shufeldt, R. W.
1892 A study of the fossil avifauna of the Equus beds of the Oregon desert. Journ. Acad. Nat. Sci. Philadelphia, vol. 9, p. 389-425, pl. 15-17.